APPENDIX D

Hydroelectric Power Potential of the Chattooga River Basin

Electric power loads in the Southeast are doubling every 8 to 10 years. The loads are supplied substantially by power from steam-electric generating plants, but the peak portions are supplied mostly from hydroelectric plants. Both complement each other to furnish the most economical supply available. The potential for future hydroelectric supply, however, in relation to the total load, is diminishing, and it is becoming harder and harder to find good sites for development of the type of power which can be utilized in the peak portions of the load. Based on preliminary studies, potential sites for hydroelectric power in the Chattooga River basin appear feasible for development and warrant additional study. Power from the potential Chattooga River basin projects could supply parts of the peak portions of the future additional power requirements.

Potential Hydroelectric Sites

Several combinations of conventional and pumped-storage hydroelectric projects in the Chattooga River basin could supply 1,800,000 kilowatts. Depending upon additional studies, installed capacity may possibly be increased to as much as 3,000,000 kilowatts. Table 1 shows information for several hydroelectric projects and different development schemes.

The Cashiers project would be a pure pumped-storage installation. The afterbay dam and reservoir of 450 acres would be located on the

TABLE 1
CHATTOOGA RIVER BASIN
Potential Hydroelectric Power Projects

PROJECT NAME	DAM			RESERVOIR				POWER INSTALLATION		
	River	River Mile	Drainage Area Sq Mi	Maximum Power Pool Elev Ft msl	Area Acres	Maximum Critical Drawdown Ft	Power Storage Capacity Ac Ft	Gross Power Head Ft	Installed Capacity Kw	Average Annual Generati Mwh
CASHIERS	Chattooga	46.9 2/	12.4	2880	450	45 3/	16.5M	640	550M 4/	482M
ROGUES FORD	Chattooga	11.3	193.0	1600	5800	25	140M	360	1MM 5/	876M
SAND BOTTOM alternative for Rogues Ford	Chattooga	17.7	178.0	1640	5800	20	150M	280	1MM 6/	876M
OPOSSUM CREEK with Rogues Ford	Chattooga	4.9	258.0	1240	1000	40	40 M	348	230M 7/	202M
with Sand Bottom	Chattooga	4.9	258.0	1360	3200	10	40M	468	300M 8/	263M

Footnotes:

1/ Based on 10% annual load factor.

2/ Forebay will be located on Little Whitewater Creek tributary to Whitewater River.

3/ Afterbay drawdown = 45ft, Forebay drawdown = 60ft, Maximum power pool at elevation 3520 ft.

4/ 550M kw installation based on 15hrs continuous generation if reduced to 8hrs could be increased to about 1MM kw.

5/ 1MM kw installation based on 8 hrs continuous generation.

6/ 1MM kw installation based on 8 hrs continuous generation ultimate could be as much as 2MM kw.

7/ 115M kw pumped storage based on 8hrs continuous generation and 115M kw conventional installation.

8/ 150M kw pumped storage based on 8 hrs continuous generation and 150M kw conventional installation.

Chattooga River and the forebay dam and reservoir of 330 acres on Little Whitewater Creek, a tributary to the Whitewater River in the Keowee River basin. The small forebay reservoir would have an insignificant effect upon the water flows in the Whitewater River. An installed capacity of 550,000 kilowatts is based on 15 hours of continuous generation, and may be increased to about 1,000,000 kilowatts if the time of continuous generation is reduced to eight hours. Selection of the initial amount of installed capacity will depend upon additional economic studies and what can be utilized in the load.

The Rogues Ford or Sand Bottom project would be a pumped-storage installation. The dam sites for these potential projects are fairly near each other and substantially the same stretch of the river would be developed by either project. Construction of Rogues Ford or Sand Bottom, as shown in Table 1, will eliminate the other project as well as the Warwoman project shown in the U. S. Study Commission plan. The installed capacity at Sand Bottom may be increased to as much as 2,000,000 kilowatts, depending upon stream channel limitations, with a drawdown of about 25 feet at the Opossum Creek reservoir.

The maximum critical period drawdown is 25 feet for Rogues Ford and 20 feet for Sand Bottom. Drawdowns during the recreational season for either project during normal periods of operation are, however, expected to range between 5 and 10 feet. The reservoir surface for either project will be about 5,800 acres.

The Opossum Creek project would be a combined pumped-storage and conventional hydroelectric installation. Opossum Creek will provide afterbay storage for either Rogues Ford or Sand Bottom. The small amount

of afterbay storage needed for Opossum Creek will be provided by the existing Tugalo hydroelectric project. The Opossum Creek dam site is located about one mile downstream from the Camp Creek dam site which was included in the U. S. Study Commission plan. The height of the dam proposed for the Opossum Creek project would inundate the Camp Creek dam site and the reservoir area will be 1,000 or 3,200 acres depending upon whether Rogues Ford or Sand Bottom is built.

Economic Evaluations of Projects

Costs and benefits of hydroelectric power only have been considered in this preliminary analysis even though benefits from other water uses would also be realized. Considerable opportunities for recreation, water cooling, and other purposes would be provided but have not been considered in this preliminary analysis.

The investment cost for hydroelectric development in the Chattooga River basin that would provide nearly two million kilowatts of installed capacity is estimated to range from about $316 to $353 million, excluding transmission costs. The investment would vary somewhat depending upon the scheme of development selected.

Even though other benefits would be realized from water storage projects, development of the Chattooga River basin for hydroelectric power only appears feasible. The assumptions used in evaluating the potential projects are as follows:

(1) An interest rate of 4-7/8 percent which is the current rate designated to be used in plan formulation by Federal agencies.

(2) A 100-year period of analysis.

(3) A pumping energy cost of 3.5 mills per kilowatt-hour.

(4) Power values of $19.45 annually per kilowatt of capacity and 2.55 mills per kilowatt-hour of energy.

Based on the above assumptions, the annual equivalent cost would range from about $28.9 to $31.5 million, depending upon the development plan selected, and the annual equivalent benefit from hydroelectric power only would range from about $38.7 to $40.2 million.

Future Need for Electric Power

The large interconnected power regions of the United States are subdivided into power supply areas embracing interconnected and co-ordinated electric facilities. The Southeast Region, Federal Power Commission statistical Region III, encompasses Power Supply Areas 18, and 20 through 24. The power supply areas are usually associated with the following states: 18 with Virginia, 20 with Tennessee, 21 with North Carolina and South Carolina, 22 with Alabama, 23 with Georgia, and 24 with Florida. The Southeast Region has an area of about 355,000 square miles.

The Chattooga River basin lies largely in northeastern Georgia and northwestern South Carolina with the headwaters near Cashiers, North Carolina. The 268-square mile drainage area encompasses portions of Power Supply Areas 20, 21, and 23. Electricity generated at potential projects in the Chattooga River basin would probably be used primarily in Power Supply Areas 21 and 23, however, existing and future interconnecting transmission grids would permit using the energy by displacement throughout the Southeast Region.

The Southeast Region, with a population more than 30 million, had a coincidental peak demand of 38,987 megawatts in 1967. By 1990 the peak demand is expected to be about 210,400 megawatts which is nearly 540 percent of the 1967 demand or an average annual increase of about 7.6 percent. Generating capacity additions of about 193,500 megawatts, including reserve capacity, are contemplated to meet the annual peak load for 1990. Large fossil-fired and nuclear steam-generating plants are included in the projected capacity additions for base load operations, and conventional hydroelectric and pumped-storage installations are usually best suited for peaking purposes. Steam-generating plants and hydroelectric plants complement each other in meeting system demands. Currently in the Southeast about 82 percent of the total capacity is provided at base load plants and 18 percent at peaking plants. By 1990, however, the percentages that will best fit the load requirements may vary from 88 to 90 percent base load capacity and from 10 to 12 percent peaking capacity.

Potential Hydroelectric Projects on Other Rivers

Federal hydroelectric projects currently under construction in Region III will provide 715,000 kilowatts of installed capacity. Five other Federally-authorized projects on which construction has not been initiated but may be completed by 1990 will provide 669,000 kilowatts. Non-Federal hydroelectric facilities currently under construction and those being considered that may be constructed by 1990 would provide another 3,559,000 kilowatts of installed capacity.

Additional Installations Needed by 1990 for Peaking Purposes

Assuming the portion of the load that is adaptable to hydroelectric supply is about 11 percent in 1990, a total of more than 14 million kilowatts of additional capacity will be needed in Region III at peaking capacity installations. Nearly five million kilowatts of installed capacity are currently under construction or are being considered at both Federal and non-Federal hydroelectric projects outside the Chattooga River basin, and in areas where topographic conditions are not favorable for hydroelectric developments a total of about three million kilowatts of additional peaking capacity may be provided by gas turbines. Those capacities added to the nearly two million kilowatts proposed for the Chattooga River basin would still leave a need for over four million kilowatts of installed capacity that is adaptable to supply from hydroelectric developments. This indicates that all of the hydroelectric projects currently being considered and the potential hydroelectric development of the Chattooga River basin could be utilized by 1990.

Discussion and Conclusions

Conventional hydroelectric and pumped-storage developments are becoming increasingly important as sources of peaking capacity. A prerequisite, however, for pumped-storage developments is the availability of energy at low incremental cost for the pumping cycle. Peaking capacity is generally understood to mean that part of a system's generating equipment which is operated intermittently for short periods of time during the hours of highest daily, weekly, or seasonal kilowatt demand. Whether the maximum peak demand of a system lasts for a few minutes or a few hours, generating capacity must be available for supplying the demand at the moment it develops.

Conventional hydroelectric and pumped-storage projects have many favorable characteristics which provide strong incentives for developing potential water power sites. They utilize a renewable resource, they do not have significant thermal effects upon the water resource or contribute to air pollution, and they are very reliable in operation. Because of their ability to start quickly and make rapid changes in power output, they are particularly well adapted for serving peak loads, and for assisting in the supply of spinning reserve. In many cases, development of hydroelectric projects provides associated benefits such as recreation, water for cooling purposes, fish enhancement, flood control, water supply, and low flow augmentation. Load forecasts for electric utility systems in Region III indicate that the coincidental peak demand will increase from 52,960 megawatts in 1970 to 210,400 megawatts in 1990 which represents an increase of about 400 percent. Additional capacity needed by 1990 for peaking purposes is expected to amount to about 14 million kilowatts. Both Federal and non-Federal hydroelectric projects in Region III located outside the Chattooga River basin that are currently being considered would provide only about five million kilowatts of installed capacity. Nearly two million kilowatts of installed capacity, including both conventional hydroelectric and pumped-storage installations in the Chattooga River basin, appear feasible for single purpose development. This latter capacity would help meet the need for future peaking capacity but it represents only a minor part of the total Region III needs by 1990.

The rapidly expanding use of electricity in the Southeast is expected to double every 8 to 10 years. This large growth is a challenge to the

lectric utility industry to keep abreast of the demand. The increasing eed for additional capacity, particularly peaking capacity installations, nd increasing demands for other water use purposes provide impetus for the reparation of long-range river basin plans that will harmonize the water requirements for all uses. Construction of any combination of the hydro-electric projects shown in Table 1 would still leave an 18- to 20-mile stretch of the river that could be considered for other purposes.

APPENDIX E

FEDERAL POWER COMMISSION
REGIONAL OFFICE
730 Peachtree Building
Atlanta, Georgia 30308
March 13, 1970

Mr. T. A. Schlapfer
Regional Forester
Forest Service
U. S. Department of Agriculture
Suite 800, 1720 Peachtree Road, N. E.
Atlanta, Georgia 30309

Dear Mr. Schlapfer:

This refers to the public meeting to be held in Clayton, Georgia, on March 17, 1970, to discuss the Chattooga Wild and Scenic River proposal. The Atlanta Regional Office of the Federal Power Commission has previously submitted a draft report of the hydroelectric potential of the Chattooga River basin which we assume will be made a part of the official recorded documents and fully considered by the study team in preparing the final report for the President and Congress. We believe, however, that it is appropriate to submit an explanatory statement for the forthcoming meeting.

In our draft report submitted December 8, 1969, to the Regional Director, Southeast Regional Office, Bureau of Outdoor Recreation, we briefly described two alternative plans for developing power potential in the Chattooga River basin. Each alternative plan involved three impoundments on the river. It should be noted, however, that the Cashiers project located in the upper reaches of the river could be constructed and operated independently from the other two impoundments in each plan.

The afterbay dam for the Cashiers project would be located about two miles upstream from Norton Mill Creek. The project as proposed would be a pure pumped-storage installation. After initial filling of the afterbay reservoir, releases from the impoundment could be regulated so that they would be nearly equal to the inflows. Therefore, the free flow characteristic of the river would not be necessarily interrupted as reported on page 30 of your Chattooga Wild and Scenic River report except for the inundated area of the reservoir. If the outflows are adjusted to equal the inflows, only about the middle one-third part of Section 1 as shown on page 6 would be affected by the Cashiers project and the scenic value of the Corkscrew Falls located just upstream from Green Creek would not be adversely affected. In fact,

with adequate storage in the Cashiers reservoir the flows downstream may be enhanced. Also, the Silver Slipper Falls, the Chattooga Cliffs, and the most magnificant long-range view and cascades on the river are located upstream from the headwaters of the proposed Cashiers impoundment. It appears that the stretch of the river that makes Section 1 suitable only for a scenic river classification rather than a wild river classification is the part that would be inundated by the afterbay reservoir of the Cashiers pure pumped-storage installation.

We would like to point out again that the rapidly expanding use of electricity in the Southeast is expected to double every eight to 10 years and that pumped-storage projects are expected to play an important role in providing the necessary peaking capacity to keep abreast of the demand for electricity. To classify the entire Chattooga River a wild or scenic river would virtually eliminate future development of the Cashiers project or any other power potential on the Chattooga River, either conventional or pumped storage.

We do not plan to make an oral statement at the March 17 meeting. However, we appreciate the opportunity of expressing our views concerning the power potential on the Chattooga River, the rapidly expanding demand for electricity in the Southeast, and the proposal to classify the Chattooga a wild and scenic river.

Very truly yours,

Robert C. Price
Regional Engineer

APPENDIX F

SATURATION LEVEL - RECREATION USE
CHATTOOGA RIVER
(Maximum use based on 12 hr. Days)

		PAOT*
Floating		
Wild	- 38 miles @ 10 craft/Mi & 2 people/craft =	760
Recreation	- 10 miles @ 20 craft/Mi & 2 people/craft =	400
Hiking	- 50 miles of trail @ 8 people/mile =	400
Hunting	- 15,000 acres @ 50 A/hunter =	300
Fishing	- 8 fishermen/mile x 60 miles =	480

COMPUTATION OF ALLOWABLE USE
CHATTOOGA RIVER
(Maximum use based on 12 hr. Days)

Wild	38 miles - (1/2 capacity per day for each use 100 day season		
	380 floaters,	152 hikers,	152 fishermen
	38,000	15,200	15,200
Wild	3.3 miles - Maximum allowable fishing (100 days)		
			26 fishermen
			2,600
Scenic	5.5 miles - Maximum allowable fishing & hiking (100 days)		
		44 hikers	44 fishermen
		4,400	4,400
Recreation	10.1 miles - (1/2 capacity per day for each use 100 days)		
	200 floaters	40 hikers	40 fishermen
	20,000	4,000	4,000
	78,000	23,600	26,200

Hunting entire area 300 per day @ 60 day Season 18,000 Visitor Da

Primitive Camping PAOT* 134 x 100 day Season 13,400

*People at one time.

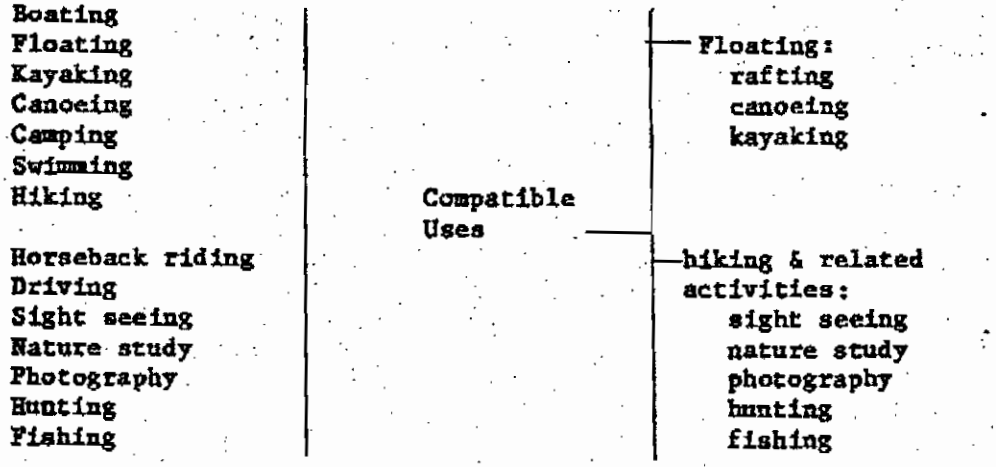
SATURATION LEVEL DETERMINATION

Demand Levels

Before demand levels can be studied, the recreation activities compatible with the wild and scenic environment of the Chattooga River should be established.

Of the twelve possible activities listed below, only seven seem compatible. Camping could be the eighth, but it must be clearly defined as to type and location before it can be considered.

The following diagram is used to illustrate how these activities will be discussed.



Hiking & Related Activities

In hiking, a variety of experiences is offered along the scenic and primitive areas on the Chattooga. There are some very rough, high and treacherous places within the gorge and some less demanding trails along the river banks. Existing hiking trails should be incorporated into a master trail system so that they can be planned and controlled.

Related activities to hiking include nature studies, photography, sight seeing, hunting and fishing. In most cases, the hike is necessary in order to fulfill either one of these activities. Nature study would certainly attract one to the depths of the gorge. Sight seeing and photography can be as extensive as one's ambition will permit. Hunting, on the other hand, will be limited within the boundary of the river because of the nature of the topography. Few hunters will venture into the gorge because the terrain does not afford them very many advantages. Fishing will not have such disadvantages. The wild and rugged environment helps to create a habitat conducive to good trout production. It also limits the number of fishermen.

Floating

Floating activities which include rafting, canoeing, and kayaking are very compatible uses for the river because these activities can capitalize on whitewater and scenic qualities that it possesses. By the nature of the activity, little damage, in comparison to other compatible activities, will be anticipated on the very fragile river banks. The quantity and floating quality of the water will usually determine where these activities are feasible. (See ACA report on Chattooga River.)

Although camping would normally appear to be a compatible use on the Chattooga River, the environment within the river boundary may not be capable of absorbing the impact and alteration that is so often related to this activity. Even the wilderness experience type of camping should not be permitted within the boundary.

There are no discrete ways of preventing hikers and canoers from camping on the river banks. However, there are ways to encourage them to camp beyond the boundary. One of these ways would be to provide drinking water and rough toilets just outside the boundary. The purpose here is to encourage the weary sportsman to camp near these comfort facilities. If these facilities are not provided, the sportsman is more apt to randomly select a campsite for the night that would be a convenient distance to his craft or trail. Since the river side environment is fragile, this would not be the wisest thing for the proponents of a wild and scenic river to let happen. Maintaining the primitive qualities of the river should be the first priority in planning the public use of the river.

The demand level for these activities is not easy to determine. Historical data as well as evidence of the present public interest would be needed in order to develop anything that even resembled a demand level.

Evidence of current interest in recreation activity on the Chattooga has been shown by several outing clubs and the American Canoeing Association. Data pertaining to the private citizen interested in the activities that are compatible with the wild and scenic river is currently not available.

Gathering demand data that would be usable for planning a comprehensive recreation program for the river is a task that is a separate study in itself. Presently, data is not available to speculate on the amount of water and land activities that are or will be in demand on the Chattooga River. In view of the unavailability of demand data, it would be wisest to plan the activities on the river according to the capability of the environment to absorb the proposed compatible uses.

Identifying the recreation resource and the saturation levels of the proposed recreation activities will be the main determinants for recreation planning. Models have been devised to help in identifying saturation levels. These models show the recreation activities on a wild and scenic river in various landscape situations. The landscape situation is described as the physical qualities a landscape possesses i.e., trees, rock and water that permit it to absorb use by man with minimal impact on its total physical quality.

The very dense, heavily foliated landscape away from the river edge, which usually becomes less fragile as the distance from the river increases, had the highest man use absorbing capacity.

Combining the landscape situation with the type of experience desired by the recreationer i.e., the communing with nature or the challenge of nature, sets the stage for saturation levels to be reached not only in recreation uses on the landscape but also the saturation of the experience. At what point in a landscape do the number of users at one time become dominant elements within the landscape and detract from the experience being pursued?

Hiking, for example, is a recreation activity which may be divided into two types of experiences: the wilderness type where the hiker desires an intimate communal relationship with nature and the challenge type usually associated with groups like the outing clubs and Boy Scouts. Both of these experiences have saturation levels, and both are dependent upon the numbers of people involved and the capability of the landscape to supply the atmosphere that evokes the experience.

If, for example, a trail through the dense foliated landscape mentioned earlier, became crowded with people seeking a wilderness experience, and hikers could see hikers from other groups, then that intimate communal feeling would be altered somewhat and possibly lost. What needs to be established then is a reasonable distance between hikers or groups of hikers so that this intimate quality can be maintained.

The challenger, on the other hand, often represented in groups is more concerned with the test of his skill against nature's obstacles than he is with the people around him. Naturally, his saturation level will be higher than his counterpart. A reasonable distance between groups of hikers would also apply to his saturation level. The challenger would not enjoy having to wait to climb a rock precipice or run his canoe through a whitewater rapid.

Distance is the significant factor then in determining the number of recreationers that can be tolerated in a particular experience in a particular activity.

For hiking and related activities the distance between hikers and groups of hikers is dependent upon the type of experience desired. The communal experience with nature can be maintained at 4 people per 1/2 mile. This is assuming that a hiking trail is layed out in predominately dense forest cover. More than 4 people would have a tendency to dominate the trailscape and possibly raise the noise above a desired level. A densely covered hiking trail can screen one group from another as well as absorb their sounds.

In the group experience where the challenge is the objective, the spacing between groups is not as critical. The distance here would be based on reasonable hike completion time.

Considering the terrain and the hike experience for both the communal hiker and the challenger, 8 people per mile should be the maximum figure to facilitate both experiences.

For floating and canoeing, 20 craft per mile in groups from 3-5 allows for congestion free trip with adequate safety. For a wilderness experience, however, the number should be limited to 10 craft.

Directly related to this distance factor is the absorbing capability of the landscape. The closed landscape can absorb more people, shortening the distance between hikers; the open landscape absorbs fewer people, lengthening the distance.

Since it would be extremely difficult to determine what is tolerable in terms of physical use of a landscape, standards must be assumed that rate a cross section of typical landscapes located within the boundary of the Chattooga River. These standards are as follows:

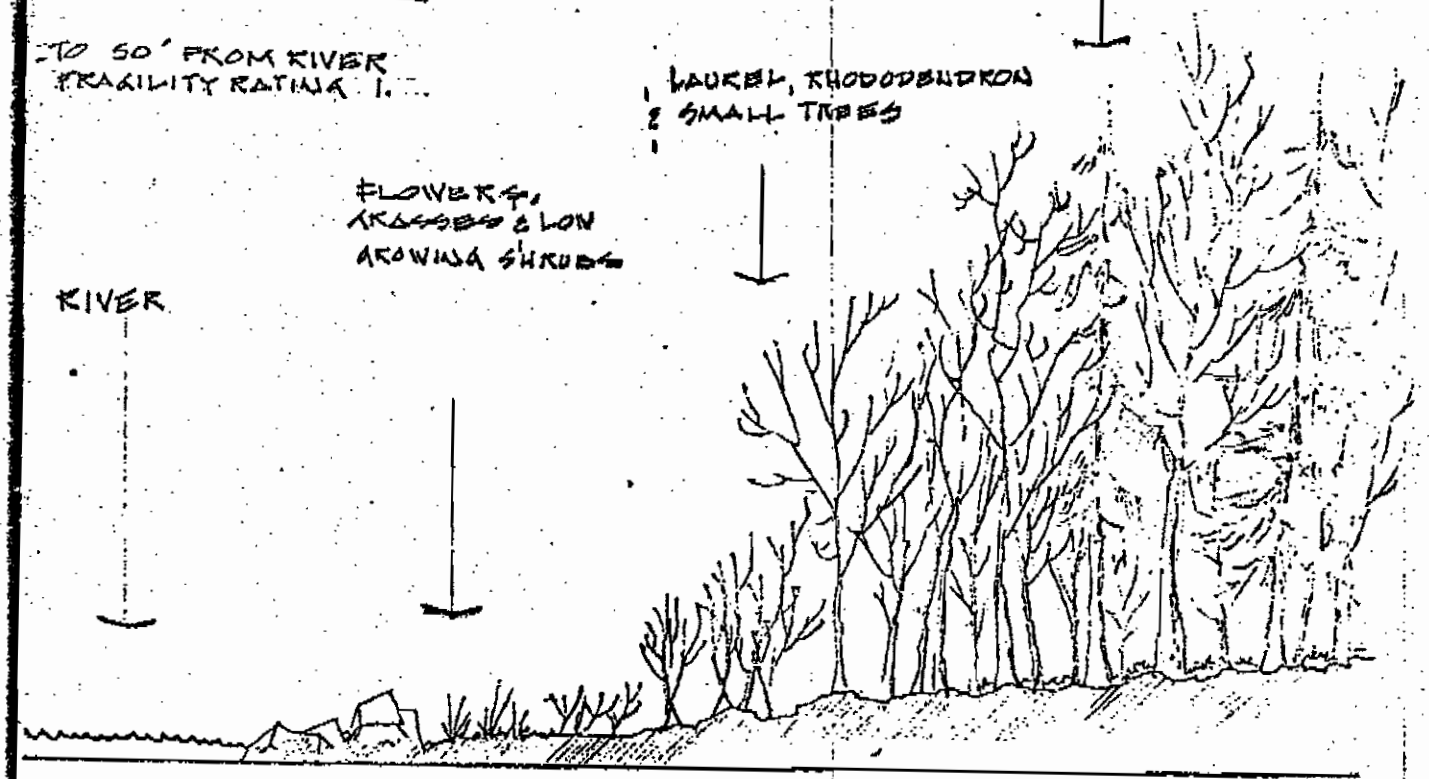
From least tolerable to most tolerable, (ratings 1 - 5)	
River edges to 50 feet from river	1.
Open landscapes from the river edge to within 50 feet of the river	2.
River edges from 50 feet to 200 feet from the river with moderate vegetation	3.
River sides from 50 feet to 200 feet from river with dense vegetation	4.
River sides from 200 feet plus with moderate to dense vegetation	5.

These assumed standards are only to be used as guides in determining landscape capabilities. There will always be exceptions to these standards, and these when recognized should be noted and considered when planning the uses for the river.

If the experience saturation levels are employed in regards to number of people using the river at one time, the landscape should be able to absorb this use with minimal affect. These interpretative saturation levels are valuable in that they are a basis upon which use levels can ultimately be determined. If these interpretative levels are in fact arbitrary, they can be tested in the field and a more realistic figure assumed. An underestimated recreation use capacity permits the planner the flexibility to make the needed adjustments when more accurate demand and saturation data is available.

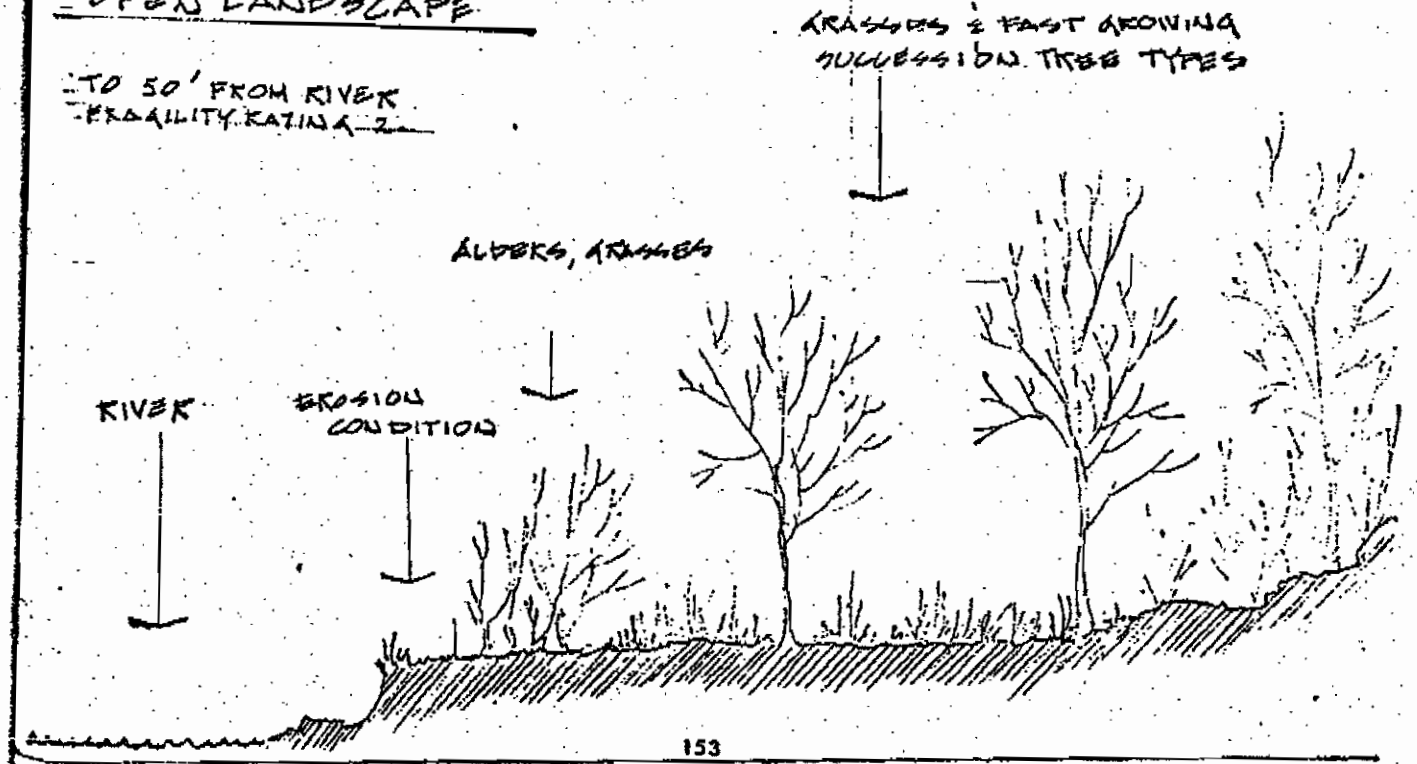
RIVER EDGES

TO 50' FROM RIVER
FRAGILITY RATING 1



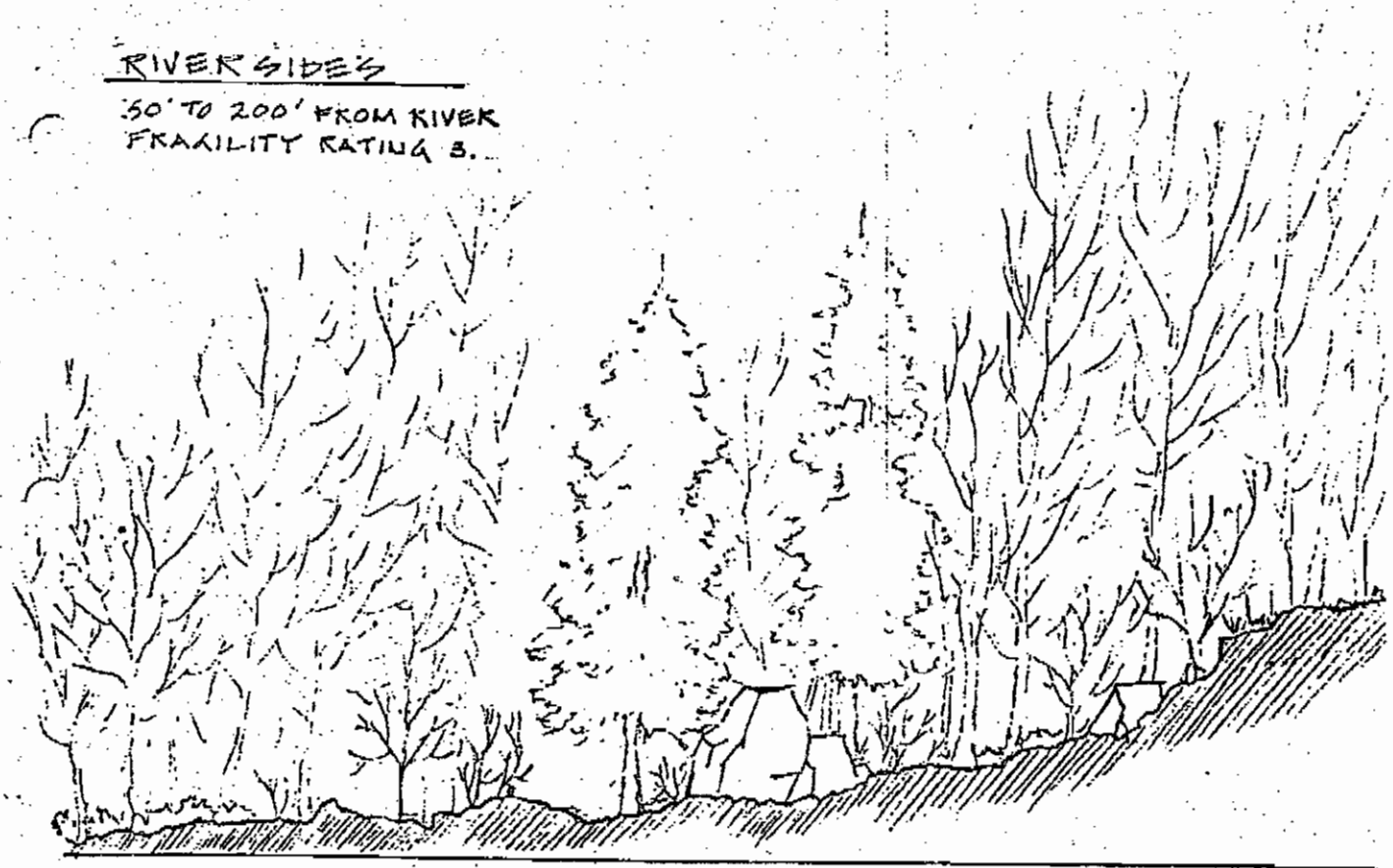
OPEN LANDSCAPE

TO 50' FROM RIVER
FRAGILITY RATING 2



RIVERSIDE 3

50' TO 200' FROM RIVER
FRAILITY RATING 3.



RIVERSIDE 4

50' TO 200' FROM RIVER
FRAILITY RATING 4.

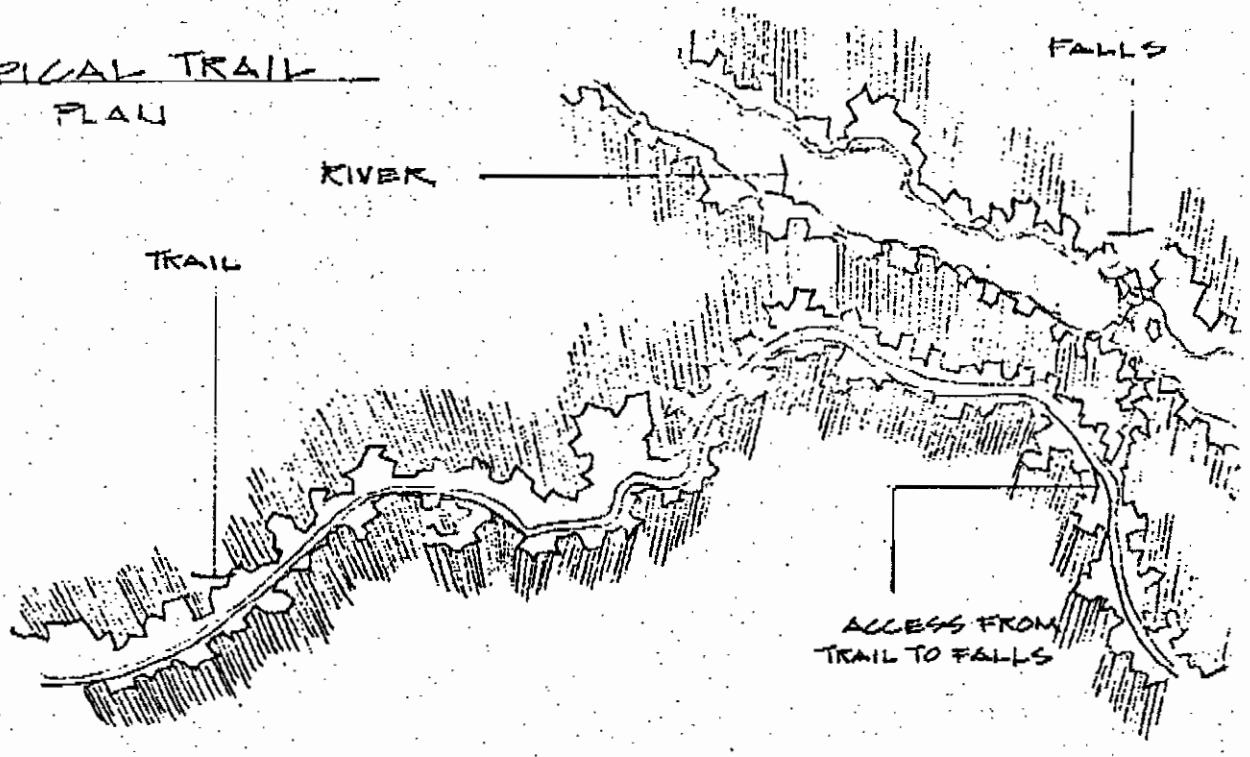
RIVERSIDES
200' PLUS
-FRAGILITY RATING 5

NOTES:

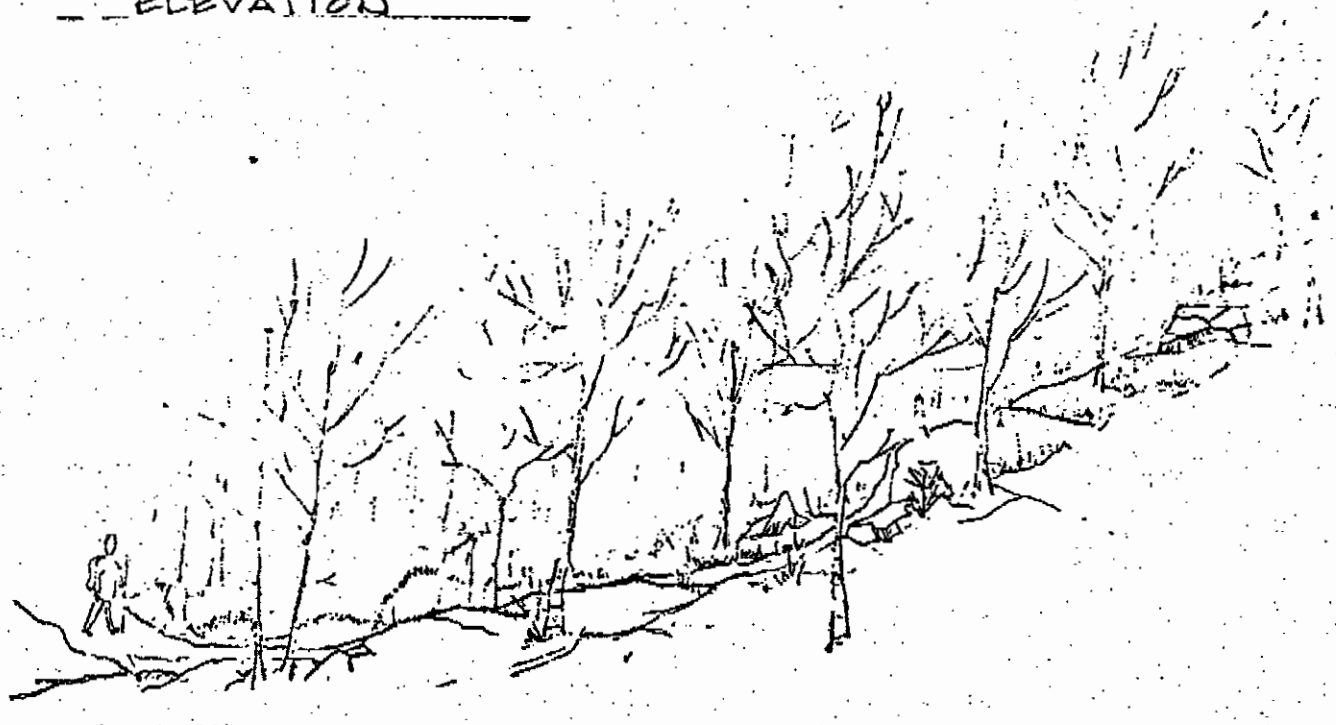
THESE LANDSCAPES ONLY REPRESENT FIVE EXAMPLES OF RIVERSIDE CONDITIONS. THERE ARE INNUMERABLE VARIATIONS ON EACH ONE OF THESE LANDSCAPES. THE PURPOSE OF THESE SKETCHES IS TO SHOW GENERALLY WHAT IS CONTAINED WITHIN THESE FRAGILITY BOUNDARIES

TYPICAL TRAIL

PLAN



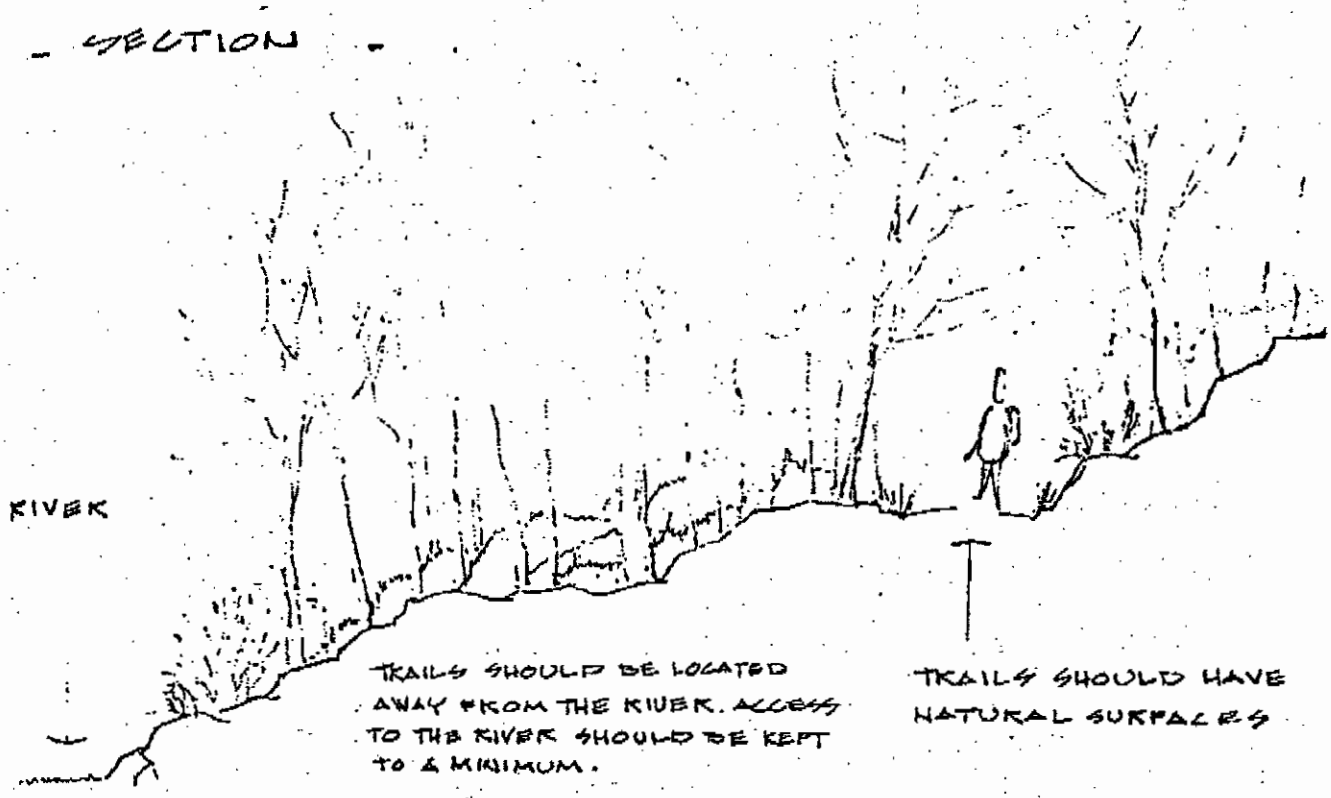
ELEVATION



A DESIGN CONTROL TO PROTECT THE MORE FRAGILE LANDSCAPES

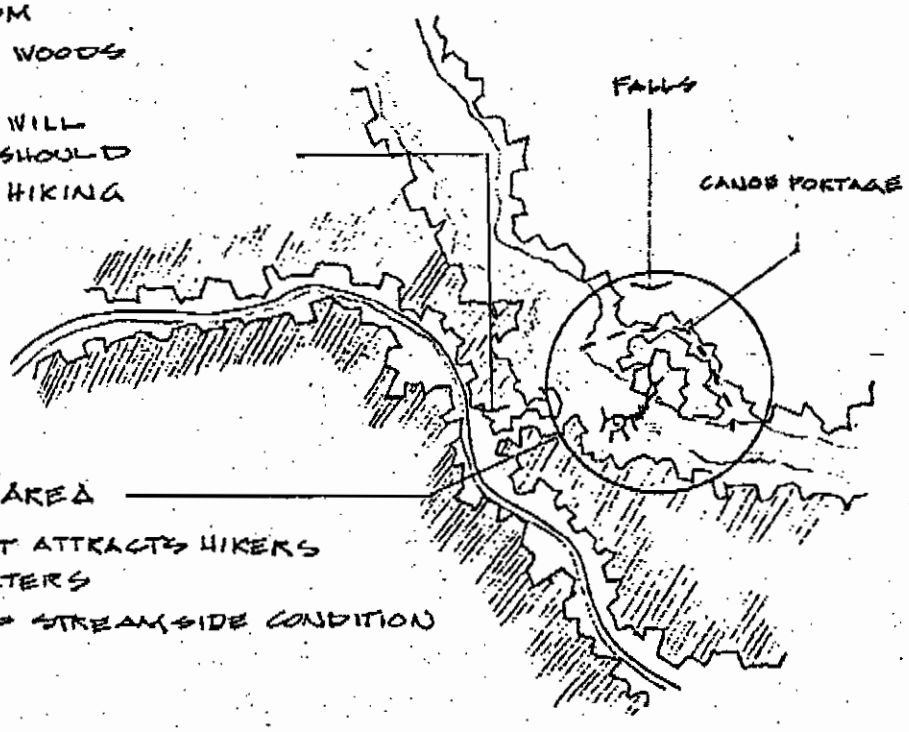
TRAILS WILL PASS THROUGH A VARIETY OF LANDSCAPES. TRAILS THROUGH WILD CLASS AREAS WILL EMPHASIZE RUGGED TOPOGRAPHY. TRAILS THROUGH THE SCENIC AREAS WILL BE LESS DEMANDING

- SECTION -



CONCENTRATION AREAS
NATURAL FEATURES

ACCESS TO FALLS FROM THE TRAIL IS THROUGH WOODS VIA UNMARKED PATH SOUND OF THE WATER WILL DIRECT HIKERS. THIS SHOULD ALSO HEIGHTEN THE HIKING EXPERIENCE

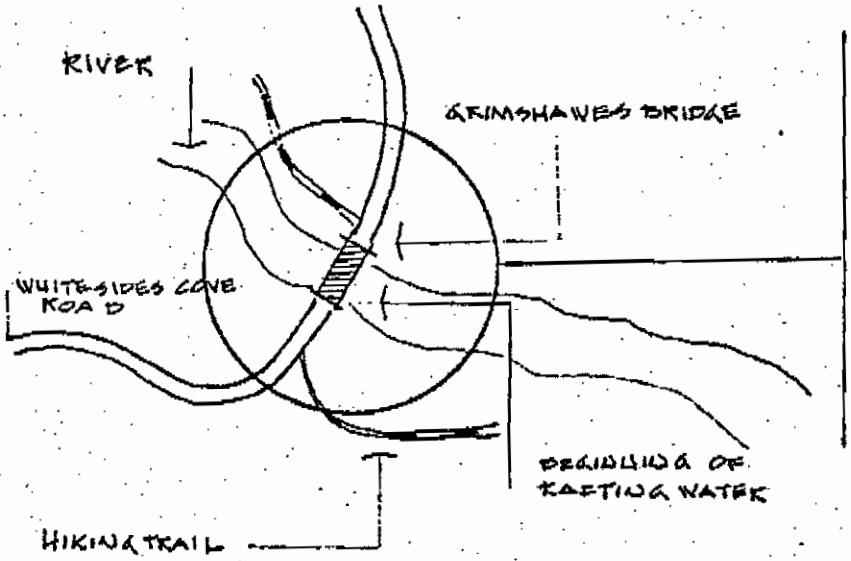


HIGH CONCENTRATION AREA

WATER FEATURE THAT ATTRACTS HIKERS AND DELAYS FLOATERS
DETERIORATION OF STREAMSIDE CONDITION EXPECTED HERE

CONCENTRATION AREAS

ACCESS NODES



HIKERS, RAFTERS AND VEHICLES WILL FREQUENTLY MEET HERE BECAUSE THIS ROAD IS THE ONLY MAJOR ACCESS TO THE RIVER IN THE HEADWATERS AREA

AS AN ACCESS NODE, VEHICLES WILL ONLY BE PERMITTED FOR PICK UP AND DROP OFF OF RECREATIONERS AND THEIR EQUIPMENT

APPENDIX G

DEVELOPMENT COSTS

First Year

Hiking Trail Construction 7 mi. @ 5000/mi.	$ 35,000
Canoe Portages 2 @ 1800 each	3,600
Launching Sites 2 @ 5600 each	11,200
Parking Lots 2 (20 cars each) @ 6600 each	13,200
Close and revegetate jeep roads 20 mi. @ 980/mi.	19,600
Replan Burrells Ford Recreation Area	9,800
	$ 92,400

Second Year

Complete Burrells Ford Recreation Area (Dev. Scale I)	35,000
Hiking Trail Construction 7 mis. @ 5000/mi.	35,000
Close and revegetate jeep roads 10 mis. @ 980/mi.	9,800
Parking Lots 2 (40 cars) @ 6600 each	13,200
Launch Sites 2 @ 5600 each	11,200
Access Trail 0.5 mi. @ 5000/mi.	2,500
	$106,700

Third Year

Hiking Trail Construction 7 mi. @ 5000/mi.	35,000
Campsite 2 (24 PAOT) @ 560/PAOT	13,440
Parking Lots 2 (40 cars) @ 6600 each	13,200
Launch Sites 2 @ 5600 each	11,200
Access Trail 0.4 mi. (2 each) @ 5000/mi.	2,000
Access Road 1 mi. @ 37,800/mi.	37,800
	$112,640

Fourth Year

Hiking Trail Construction 7 mi. @ 5000/mi.	35,000
Access Trail 0.8 mi. (1 trail) @ 5000/mi.	4,000
Canoe Portage 4 @ 1800 each	7,200
Campsites 3 (24 PAOT) @ 560/PAOT	13,440
Launch Site 1 @ 5600 each	5,600
Parking Lot 1 (30 cars) @ 9800 each	9,800
Parking Lot 1 (15 cars) @ 6000 each	6,000
	$ 81,040

Fifth Year

Hiking Trail Construction 7 mi. @ 5000/mi.	35,000
Canoe Portage 2 @ 1800 each	3,600
Launch Site 1 @ 5600 each	5,600
Access Trail 0.5 mi. @ 5000/mi.	2,500
Campsite 1 (8 PAOT) @ 560/PAOT	4,480
Parking Lot 1 (20 cars) @ 9800 each	9,800
Remove old buildings and clean up sites near Highway 28 crossing	18,900
	$ 79,880

TOTAL FIVE YEAR PROGRAM	$464,860

After Fifth Year

Put Power Line Underground	2,800
Erosion Control - Grimshawes and West Fork	3,780
Remove 2 wooden bridges and 2 steel bridge frames	28,700
Screen Culvert on Overflow Road	1,400
Remove old road at 76 Bridge	7,000
Remove tanks and machinery on West Fork	1,400
Remove buildings around Highway 28	14,000
Remove Burrells Ford and Bullpen Bridges	187,000
Hiking Trail Construction, 19 mi. @ 5000/mi.	95,000
	$343,080

OPERATION COSTS

	1st Year	2nd Year	3rd Year	4th Year	5th Year
Supervision of Recreation Use	21,000	28,000	35,000	35,000	35,000
Cleanup of Developed Sites	21,000	28,000	35,000	42,000	49,000
Cleanup of River and River Area	8,400	9,800	11,200	14,000	16,800
Maintenance of Recreation Developments	8,400	8,400	25,200	28,000	35,000
Maintenance of Trails	7,000	11,200	14,000	18,200	21,000
Search & Rescue	2,800	4,200	5,600	5,600	7,000
Visitor Information Service	21,000	14,000	14,000	14,000	25,200
Benchmark System	14,000	7,000	7,000	7,000	14,000
	103,600	110,600	147,000	163,800	203,000

APPENDIX H

CHATTOOGA RIVER

Recreation Development Plan
Existing Facilities Near River

Area	State	Miles from River	Type	Capacity PAOT[1]	Operator
Cliffside Lake	NC	9	Picnic – Swim	65	USFS
Van Hook Glade	NC	9	Camping	95	USFS
Chattooga	SC	2	Picnic	75	USFS
Burrell's Ford	SC	0	Camping	45	USFS
Cherry Hill	SC	4	Camping – Picnic	100	USFS
Toxaway	SC	8	Picnic	20	USFS
Warwoman Dell	Ga	10	Camping – Picnic	70	USFS
Rabun Beach	Ga	18	Camping – Picnic – Swim	355	USFS
Black Rock State Park	Ga	12	Camping – Cabins	300	State of Ga
Oconee State Park	SC	7	Camping	700	State of SC
Betty's Creek	Ga	16	Camping – Cabins		Private
Rainy Mountain	Ga	5	Camping	150	Boy Scouts of America
Arrowhead	Ga	16	Camping	200	Private – KOA

[1]People at one time

APPENDIX I

CHATTOOGA RIVER

Potential Recreation Development Plan Summary

River Mile and Location	Proposed Classification	State	Type of Development – Proposed					
			Access Road Miles	Parking Lot Cars	Portage Each	Launch Site	Trail Miles	Campsite
53.6 Silver Slipper Falls	Scenic	N C	0.4[1]	X				
51.5 Grimshaws	Scenic	N C		X				
48.9 Monroe House	Scenic	N C						X
46.0 Bull Pen	Wild	N C		X		X		
42.5 East Fork	Wild	S C						X
40.3 Burrells Ford	Wild	S C		X		X		X
29.1 West Fork	Rec	S C		X		X		
25.6	Wild	Ga			1			
25.4 Big Shoals	Wild	Ga						X
25.3 Piney Knob	Wild	S C						X
24.1	Wild	Ga			1			
22.4 Earls Ford	Wild	Ga		X		X	0.5	
	Wild	S C		X		X	0.2	
21.8	Wild	S C			1			
19.6 Dicks Creek	Wild	Ga			1		0.8	
19.1 Sandy Ford	Wild	Ga	1.0[1]	X		X	0.2	
18.5 Narrows	Wild	Ga						X
18.2	Wild	Ga			1			
16.3 Buckeye Branch	Wild	Ga						X
15.5 Licklog	Wild	Ga		X		X	0.3	
14.7 Rhile Bend	Wild	S C						X
10.8 Bull Sluice	Wild	Ga						X
10.2	Wild	Ga			1			
10.0 Highway 76	Wild	Ga		X				
	Wild	S C		X		X		

Continued

Continued

River Mile and Location	Proposed Classification	State	Type of Development - Proposed					
			Access Road Miles	Parking Lot Cars	Portage Each	Launch Site	Trail Miles	Campsite
8.2 Sutton Hole	Wild	S C			1			
8.1 Woodall Shoals	Wild	S C		X		X	0.5	
7.5	Wild	S C			1			
7.1 Cliff Creek	Wild	Ga						X
6.8	Wild	Ga			1			
6.4	Wild	Ga			1			
5.9	Wild	S C			1			
5.4 Camp Creek	Wild	Ga		X		X		
5.0	Wild	Ga			1			
4.9	Wild	Ga			1			
4.7 Sockum Dog Hole	Wild	S C			1			
3.9 West Fork Chattooga	Rec	Ga		X		X		

[1] Outside Proposed Boundary

APPENDIX J

CHATTOOGA RIVER
Recreation Development Plan
Hiking Trail Construction

River Trails

South Carolina	15.4 Mi.
North Carolina	12.0 Mi.
Georgia	26.6 Mi.
	54.0

First 5 Years Trail Construction

7 Mi./Year @ $5,000/Mi. = $35,000

After First 5 Years

19 Mi. River Trails

APPENDIX K

CHATTOOGA RIVER

Recreation Development Plan
Complementary Campgrounds Near River

Campground	State	Miles from River	Capacity PAOT	Status	Planned Opening	Operator
Pigpen Branch	SC	0.5	350	Planned	1977	USFS
Cobb Bridge	SC	11	300	Planned	1979	USFS
Brasstown Falls	SC	9	250	Planned	1980	USFS
Cherry Hill Expansion	SC	3	125	Planned	1983	USFS
Narrows of Chauga	SC	6	250	Planned	1984	USFS
Riley Moore Falls	SC	9	75	Planned	1986	USFS
Woodall Bridge	SC	5	75	Planned	1987	USFS
Fowlers Lake	SC	2	500	Planned	1992	USFS
Brasstown Creek	SC	6	250	Planned	1994	USFS
Hedden Creek	Ga	4	250	Proposed	1980	USFS

APPENDIX L

Proposed Multiple Use Management Direction and Coordinating Requirements.

If Congress approves the addition of the Chattooga Wild and Scenic River to the National System, multiple use planning and coordination guidelines will be added to the Southern Region Multiple Use Guide. These guidelines will establish management direction and coordinating requirements for all lands under Forest Service jurisdiction within the Chattooga Wild and Scenic River. Also, the guide will provide a framework for the development of multiple use plans on the Ranger Districts. Provision for inter-Forest and inter-District preparation and review of multiple use guidelines will serve to insure full coordination of action plans and programs within and adjacent to the Chattooga Wild and Scenic River.

Basic Planning assumptions for long range resource management and supporting activities follow:

Range

1. Woodland grazing of domestic livestock will not be compatible with management objectives.

2. Saddle and pack stock use could result in soil damage and water pollution.

Recreation

1. Opportunities for compatible recreation uses featuring floating, hiking, primitive camping, fishing, and hunting are outstanding.

2. Maintaining the quality of these recreation experiences should command priority over meeting public demands.

Timber

1. The role of timber management will be to enhance the aesthetic, watershed, and wildlife values by maintaining healthy stands of trees of all ages, sizes, and species common to the area.

2. Commercial timber uses will not be compatible with management objectives.

Watershed

1. Intensive protection and management of soil and water resources will be essential on all lands within the Chattooga Wild and Scenic River area.

2. Lands not under Forest Service jurisdiction in the Chattooga River watershed will pose a constant threat to maintaining the flow and quality of water to meet aesthetic, recreation, and fishery objectives.

Wildlife

1. Desirable levels of both large and small game will be maintained for public hunting without large-scale habitat manipulation within the river boundary.

2. In river sections where stocking is appropriate, stocking of sub-adult trout will be the most compatible way to maintain a satisfactory level of trout fishing opportunity.

3. Interest in all wildlife for non-hunting pursuits like bird-watching and nature photography will increase.

Land Uses

1. On lands under Forest Service jurisdiction, both within and adjacent to the river boundary, conflicting uses will be terminated.

2. On lands not under Forest Service jurisdiction, positive actions may be necessary to eliminate or avoid conflicting uses.

Minerals

1. Prospecting and mining activities will not be compatible with management objectives.

Fire Control

1. Fire control planning will be designed to meet the degree of protection required for resource value class 6, (the highest degree of protection provided on National Forests) on all lands within the river boundary.

2. Use of some mechanized equipment like tractor-plows in ground control of forest fires is not compatible with management objectives.

Forest Insect and Disease Control

1. Coordination of insect and disease control on all lands within and immediately adjacent to the river boundary will become an increasingly important management consideration.

2. Extreme care in the selection and application of control methods will be essential to protect the river environment.

Land Ownership Adjustment

1. Lands acquired in fee within the river boundary will be on a willing buyer - willing seller basis.

2. Where title in fee is not essential, necessary protection of the river may be achieved through scenic easements.

Transportation Systems

1. Conflicting or non-standard transportation facilities will be removed or brought to standard.

2. Within the river boundary, additional overland transportation facilities will be designed for foot travel only.

The following general coordinating requirements are established to direct the development of multiple use plans and to coordinate current action plans and programs with river management objectives. To the extent practicable these coordinating requirements shall apply to all sections within the river boundary.

1. On lands where title in fee is unessential, apply scenic easements and other means of insuring harmony between activities and developments, and Forest Service management objectives.

2. Use amicable procedures to acquire title in fee where public owner ship is essential to meet wild and scenic river purposes.

3. Exclude woodland grazing. Regulated grazing may be desirable on pastoral settings in the upper reaches of the river.

4. Exclude use of pack and saddle stock within the boundary.

5. Direct recreation uses toward floating, hiking, fishing, hunting, and primitive camping, except where transecting public roads permit driving for pleasure and related uses.

6. Base recreation planning on saturation levels for high quality recreation experiences rather than on meeting public demands.

7. Restrict additional transportation facilities to foot trails. Design essential trail bridges to harmonize with the natural setting.

8. Eliminate conflicting transportation facilities.

9. Provide only essential, primitive camping facilities.

10. Prohibit motorized equipment except that necessary for management of the area in Wild River sections.

11. Conserve or restore scientific, biologic, geologic, historic and other values.

12. Exclude all conflicting water-related structures not essential to W&SR objectives.

13. Maintain a natural shoreline except for essential alterations necessary for safety, access, or scenic management.

14. Harmonize and minimize boundary, information, and directional signing consistent with public safety and need.

15. Construct portages around waterfalls and other danger spots in keeping with the environment.

16. Limit silvicultural treatments to those required to maintain healthy, vigorous stands of all ages and species common to the area that enhance and compliment W&SR objectives.

17. Special fishing regulations are recommended for the W&S river corridor.

18. Limit manipulation of wildlife and fish habitats and populations to those required to maintain healthy balanced populations of species common to the area.

19. Seek improved enforcement of hunting and fishing regulations and control of free-running dogs.

20. Emphasize the stocking of sub-adult trout in sections where stocking is appropriate.

21. Emphasize prevention of soil erosion and prompt restoration of disturbed or damaged areas in all activities, including fire control.

22. Prohibit prospecting and mining activities.

23. Prohibit new special uses other than those essential to meeting river management objectives.

24. Terminate conflicting, existing land uses and restore use areas to a natural condition.

25. Establish "seen area" management units in District multiple use plans for appropriate National Forest Lands outside the W&SR to maintain and enhance scenic views from vantage points within the corridor.

26. Locate essential developed recreation sites outside the W&S River boundary sufficiently distant from the river to avoid concentrations of use and overcrowding of sections.

27. Prohibit unplanned motorized vehicle access to the river boundary.

28. Provide small parking lots at hiking trail access points.

29. Strictly adhere to Federal and State water quality standards in all activities within the Chattooga River watershed.

30. Restore erosion problem areas and prevent erosion in all activities in the Chattooga River watershed.

APPENDIX M

Executive Department
Atlanta 30334

Jimmy Carter
GOVERNOR

Hamilton Jordan
EXECUTIVE SECRETARY

December 7, 1971

The Honorable Earl L. Butz
Secretary
U. S. Department of Agriculture
14th Street & Independence Avenue, S. W.
Washington, D. C. 20250

Dear Mr. Butz:

At your agency's request, I have reviewed the Wild and Scenic River Study on the Chattooga River. I urge prompt Congressional action to include this river in the National Wild and Scenic Rivers System.

The Chattooga is Georgia's most outstanding cold water trout fishery and year-round white water canoeing river. As a hunting area, its watershed is well suited for bear, turkey and other important wildlife species which require large remote acreage. National Forest lands along the river should be further consolidated and its predominate classification should be as a wild river and wilderness area.

Goals and management plans must be compatible with the river's wilderness characteristics. Therefore, I make the following suggestions:

Section V. This Scenic Section should have no major man-made developments or large parking lots immediately adjoining the river. The topography where U. S. Route 76 crosses the river is very steep and V-shaped. Only small parking lots for the temporary loading and unloading of small float craft and handicapped people should be permitted. Other larger developed areas should be set back at least one-fourth mile from the river.

Section III and VIII. These Recreation Sections should be generally upgraded to Scenic Class by purchasing the private inholdings with lifetime estates reserved if necessary. Only relatively small clustered and low-density recreational developments should be allowed to occur in these Sections.

Overnight accomdations and intensive development should occur in and near the trade centers in the region, such as Clayton and Dillard, Georgia. There, they are close enough to the river to provide

overnight accomdations for users of the river, yet they are far enough away to avoid degradation of the river's wild character and excellent water quality.

As the Chattooga River is an important water supply for down-river urban centers, the controls of the 1899 Refuse Act should apply. Any mining or other activity which would degrade this river should be prohibited.

The plan should conserve 30,000 to 50,000 acres in a combined wild river and wilderness area rather than just 15,143 acres.

Sincerely,

Jimmy Carter

JC/mm

cc: Georgia Congressional Delegation

State of South Carolina

JOHN C. WEST
GOVERNOR

OFFICE OF THE GOVERNOR
COLUMBIA 29211

November 11, 1971

Mr. Edward P. Cliff, Chief
United States Forest Service
Department of Agriculture
South Building
12th and Independence Avenue
Washington, D. C. 20250

Dear Mr. Cliff:

The study of the Chattooga River to determine its status for a Wild and Scenic River designation in accordance with Public Law 90-542 has been completed and is ready for submission to the Congress and the President. I understand that the recommendations which are being made as a result of this study are favorable and that this white river meets all the necessary qualifications for designation as a Wild and Scenic River.

The South Carolina legislature has endorsed a resolution recommending to Congress and the President that the report receive favorable consideration. I wish to add my recommendation, because I believe that the river should be permanently preserved in its natural state for the enjoyment of the people of South Carolina as well as from other areas throughout the country.

I urge you to exert every effort in order to obtain a wild and scenic status for the Chattooga River in accordance with the Wild and Scenic River Act enacted by Congress.

Sincerely,

John C. West

JCW:KP

CC: Mr. J. W. Orr
Mr. Clair P. Guess, Jr.
The Honorable James M. Waddell, Jr.

FOREST SERVICE

STATE OF NORTH CAROLINA
GOVERNOR'S OFFICE
RALEIGH 27602

ROBERT W. SCOTT
GOVERNOR

January 24, 1972

Mr. T. K. Cowden
Assistant Secretary
Department of Agriculture
Washington, D. C. 20250

Dear Secretary Cowden:

This is in response to your letter of July 28, 1971, concerning the Chattooga River and enclosing your proposed report on the proposal to include it in the National Wild and Scenic Rivers System. You asked for my comments on behalf of the State of North Carolina.

The State of North Carolina concurs in your recommendations, and urges that the Chattooga River be included in the System by law at the earliest possible date. As you know, the North Carolina General Assembly in 1971 passed a resolution endorsing the inclusion of the Chattooga River in the National Wild and Scenic Rivers System.

Section 4 (b) of the Wild and Scenic Rivers Act provides that a river may not be added to the System until after the next full session of the State legislatures which begin following the submission of a recommendation to the President. Since the North Carolina General Assembly has already endorsed the Chattooga River proposal, and since its next session will not end until mid 1973, I request that your recommendation include waiving this provision of the act, in order that Congress may act on the proposal during this session.

The opportunity to comment is appreciated.

Cordially,

Robert W. Scott

Robert W. Scott

cc: Congressman Roy A. Taylor
Secretary Charles W. Bradshaw
Mr. Ed Potts, N. C. National Park, Parkway,
& Forests Development Commission

FOREST SERVICE
RECEIVED
FEB - 1 1972
WATERSHED MGMT.

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

DEC 2 2 1971

Dear Mr. Secretary:

This is in reply to Assistant Secretary T. K. Cowden's letter of July 28, 1971, requesting our review and comment on the proposed Chattooga Wild and Scenic River Study and a request from the Forest Service on August 6, 1971, that the environmental impact statement be similarly reviewed pursuant to the National Environmental Policy Act of 1969. Our comments have been timed to be included jointly in this response.

The study report concludes that a 57-mile segment of the Chattooga River, including a portion of the West Fork and the adjacent lands meets the criteria for inclusion in the National Wild and Scenic Rivers System and recommends that it be so designated by Act of Congress.

The proposal is structured to protect and enhance the free-flowing river and its immediate environment for the benefit and enjoyment of present and future generations as a unit of the National Wild and Scenic Rivers System. Administration of the unit would be by the U. S. Forest Service as part of the National Forest System. We are pleased to support that objective. The immediate and probable future environmental effects of the action were considered in reaching this judgment.

Our environmental review includes a number of comments and suggestions for the purpose of aiding the Forest Service in development of a final environmental impact statement. The excellence of their project report assisted substantially in review of the proposed action; however, the environmental impact statement itself was considerably less valuable. The comments which follow focus on this more technical aspect of review rather than upon any substantive concern for major environmental conflict.

The Overall Impact Statement

Time permitting, we believe the final environmental statement for Chattooga should be developed to stand on its own merits in assembly of all pertinent environmental factors related to the project decision. In any event, with future cases, it would assist this Department materially for such statements of environmental impact to be provided as complete and independent documents that separate

environmental matters from other items of project justification. Attachment of the completed project proposal to amplify any other related matters is also essential.

Area Description

In this section the Chattooga statement should provide a full and explicit understanding of the project nature, scope and net expected environmental results. This should be sufficient in detail to permit an overview assessment of the action. Many elements of regional description and impact, character of the lands, ownership patterns, affected resources, anticipated use impacts, and similar items had to be searched out of the report individually to understand the environmental complex involved. A map, with the summary description and impacts related to it, would be very useful. The present report map does not agree with this report, incidentally, on the matter of road access points to the river.

Key major beneficial and adverse impacts should be summarized concisely in this section. One of the most significant environmental impacts of the proposal was omitted entirely from the statement; namely, adding to national inventory a permanently protected resource for white water canoeing, the only one of its kind in the southeastern United States under any serious consideration for Wild River status. The relatively insignificant impact expected on timber resources was not included, a key result sometimes publicly questioned in wilderness proposals. It should be mentioned also that this area is proposed for Federal administration.

Probable Environmental Impact

The impact of future facility development should be explicitly summarized. No feel is given the reader for the present and projected impact of visitation on the area itself, the wildlife resources, or on the surrounding region. The summarized net effect of the project on regional hydro-power output is relevant and omitted, as is the effect of Wild River designation on private land owners. The impact of taking over 8,000 acres out of current use is not assessed for net effects on resources or the economy. The favorable effects of protection for rare and uncommon plant and animal species should be brought out. The non-consumptive values of wildlife preserved and made accessable are another favorable effect omitted.

Some conflict exists between maintaining the existing forest cover in its present river environment and the intention to manage the forest for increased game habitat. Such effects need clarification and the conflict explained. The extent and nature of management plans to achieve an objective of maintaining the existing river environment need to be specified. How much cutting is to be involved? How much development? What else is involved? Discussion of the essential

factors of the "benchmark system" proposed seems desirable also. This item is not even explained clearly in the basic report.

Unavoidable Adverse Effects

The unavoidable adverse project effects are outlined in generalities. Needed is some dimension of their impact projected to anticipated levels of recreational visitation.

Alternatives

Alternatives considered in the statement are sketchy. In terms of their cost on the environment, no relative magnitudes of differences are provided. The report discusses the FPC alternative of partial designation but the impact statement is silent on the severe adverse effects anticipated for this alternative.

Short-term Uses vs. Long-Term Productivity

No statement is made on this important subject, yet it is a required item under the Council on Environmental Quality's Guidelines.

In summary, we support the proposal, although we consider the impact statement itself to be weak. Evaluation was possible due only to the excellent character of the basic report. We appreciate the opportunity of commenting upon this statement and hope our suggestions will be helpful in preparing a complete final Environmental Impact Statement.

Sincerely yours,

Deputy Assistant Secretary of the Interior

Honorable Earl L. Butz
Secretary of Agriculture
Washington, D. C. 20250

DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON, D.C. 20314

IN REPLY REFER TO

DAEN-CWP-V

21 October 1971

Honorable Clifford M. Hardin
Secretary of Agriculture
Washington, D. C. 20250

Dear Mr. Secretary:

Assistant Secretary Cowden's 28 July 1971 letter to Secretary Froehlke requested the views of the Department of the Army concerning your proposed report and accompanying environmental statement on the Chattooga River; Georgia, North Carolina and South Carolina pursuant to requirements of Section 4(b) of Public Law 90-542. The Chief of Engineers has been requested by the Secretary to provide comments of the Department of the Army in this matter.

Since 1967 the Corps of Engineers and the Department of the Army have supported the concepts of a National System of Wild and Scenic Rivers which would retain outstanding stream reaches in their natural or near natural environment. We are pleased to support your conclusion that the Chattooga qualifies and your proposed recommendation that this stream, from its headwaters to Tugaloo Lake, including its West Fork, be included in the National System. We do, however, have several concerns regarding your proposed report and environmental statement, and offer the following comments in hopes that they will assist in perfecting these documents:

1. Regulating public use of this fragile area to a maximum of 139 thousand annual visitors appears highly desirable but perhaps infeasible in view of recent experience at all types and administrative levels of public recreation areas. For example, our Lake Sidney Lanier, as mentioned in the report, accommodated over 11 million visitors in 1970. The resources and facilities of this project are sorely overtaxed, as are those of many other recreation areas administered by the Corps, the National Park Service, the several states and undoubtedly the Forest Service. Estimates of management costs which ignore demands for access to public resources are probably inadequate.

2. The increased costs of fish stocking necessary to realize the potential benefits should be reflected as a part of the annual cost of the proposal.

3. Analysis of Appendix C, prepared by the Resources Advisory Board, indicates a net benefit from river development for hydroelectric power of about one-half million dollars annually under 1960 conditions. Appendix D, an analysis of hydroelectric power needs and potentials under 1969 or 1970 conditions, is not identified as to source. We presume, however, that this is the 8 December 1969 report of the Federal Power Commission. At any rate, this document indicates that because of rapidly burgeoning needs for power in the Southeast, all hydro projects currently under construction, authorized or being considered, including those in the Chattooga Basin, could be utilized by 1990. The net annual value of power for the Chattooga Basin projects varies from $8.7 to $9.8 million, depending on the particular features of the plan. In order that the Congress may have a complete picture of the values involved before it takes any action on this proposal, we believe that this information should be clearly set forth in your report.

4. Our review of Appendix D reveals that partial development of the Chattooga may be compatible with designation of a significant portion of the river as a component of the Wild River System. Therefore, it would appear appropriate that both the report and environmental statement describe such an alternative, rather than speaking only to an all-or-nothing concept of development or preservation.

5. Your proposed report notes that the Secretary of the Interior, in his intervention in the Keowee-Toxaway case, supported development of the authorized Trotters Shoals project as the next step in the comprehensive development of the Savannah River Basin. The Secretary also recognized the Congressionally approved power projects on the Chattooga as the next step in the comprehensive plan after Trotters Shoals. While development of the Chattooga River may eventually become necessary, we believe that the highest and best use of the resources at this time is inclusion of the stream in the National Wild and Scenic Rivers System. Consequently, the Corps of Engineers would support legislation to accomplish this purpose and to modify the approved plan for development of the Savannah River Basin to delete the four projects on the Chattooga River.

Sincerely yours,

William L. Barnes

WILLIAM L. BARNES
Colonel, Corps of Engineers
Executive Director of Civil Works

FEDERAL POWER COMMISSION
WASHINGTON, D.C. 20426

IN REPLY REFER TO:

OCT 15 1971

Honorable Clifford M. Hardin
Secretary of Agriculture
Washington, D. C. 20250

Dear Mr. Secretary:

This is in reply to Assistant Secretary Cowden's letter of July 28, 1971, transmitting for the Commission's comments, pursuant to provisions of the Wild and Scenic Rivers Act, PL 90-542, the proposed report of your Department on the Chattooga River. Enclosed with the letter was a draft environmental statement relating to the recommended action.

The proposed report recommends that the Chattooga River from Tugaloo Lake 49.6 miles upstream to a point near Cashiers, North Carolina, and 7.3 miles of the West Fork of the Chattooga River, be designated as a unit of the national wild and scenic rivers system. The river corridor would include 15,143 acres of land in Georgia, North Carolina, and South Carolina, of which nearly one-half are within national forests. The Chattooga River is one of the 27 rivers named for study by PL 90-542.

The Commission staff has cooperated with your Department in the studies of the Chattooga River and has furnished information on the hydroelectric power potential of the river reaches under consideration. This information is included and discussed in the report in accordance with the provisions of Section 4(a) of PL 90-542.

Several previous studies have been made of the hydroelectric power potential of the Chattooga River, including those of the Corps of Engineers and the U. S. Study Commission, Southeast River Basins. The 1963 report of the Study Commission proposed the installation of 366,000 kilowatts of conventional hydroelectric capacity at four sites on the river.

Studies by the Federal Power Commission staff show that, by constructing larger dams at two sites on the lower reaches of the river and by installing conventional and reversible capacity at these dams, installations totaling about 1,300,000 kilowatts would be possible. Included would be the Opossum Creek development at the head of the existing Tugaloo Lake,

combined with an upstream development at either the Rogues Ford or Sand Bottom site. Preliminary studies by the staff indicate that development of this potential power would be economically justified with Federal financing but of marginal economic justification with private financing. In addition to power, the proposed projects could provide recreation and possibly other benefits. These projects would inundate approximately one-half of the river reach proposed for inclusion in the national wild and scenic rivers system, leaving the upstream portion of the river in its free-flowing state.

The staff studies also identified a potential pure pumped storage development at the Cashiers site in the upper reaches of the river. The possible installation would range from 550,000 to as much as 1,000,000 kilowatts. Although the upper pool of this development would be outside the Chattooga River basin, the lower pool would inundate a short section of the upper reach of the Chattooga River. This afterbay pool could be operated so that the regimen of natural river flows would not be changed.

The staff points out that the proposed report of your Department and the accompanying draft environmental statement considered only two alternatives to the wild and scenic river proposal -- maintain the status quo or completely develop the river for hydroelectric power production. As indicated above, a further alternative would be the development of the lower half of the river reach for power and other purposes, and designation of the upper portion of the river as a unit of the national wild and scenic rivers system. Under such an alternative, the potential Cashiers pumped storage development could be eliminated.

The Commission recognizes the desirability of preserving certain river reaches in their free-flowing state. It is acutely aware, also, of the growing demands for electric power in the Southeast and the need to plan for the construction of various types of generating capacity, including hydroelectric capacity, to meet the future power demands. As contemplated in PL 90-542, the decision to include a river reach in the national wild and scenic rivers system should be made having regard for the potential uses of the land and water which would be enhanced, foreclosed, or curtailed by such inclusion.

Based on its consideration of the proposed report of your Department and the studies of its own staff, the Commission concludes that the Chattooga River has a substantial hydroelectric power potential that should be fully considered in deciding whether or not to include the river in the national wild and scenic rivers system. The possibility

of developing power in part of the river and preserving the remainder in a free-flowing state should be given further consideration.

Other than the views expressed in the foregoing, the Commission has no comments on the draft environmental statement.

Sincerely,

John N. Nassikas

John N. Nassikas
Chairman

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

OFFICE OF THE SECRETARY

WASHINGTON, D.C. 20201

Honorable T. K. Cowden
Assistant Secretary of Agriculture
Washington, D.C. 20250

Dear Mr. Cowden:

Secretary Richardson has asked me to reply to your letter of July 28 requesting comments concerning the report and accompanying draft environmental statement on the proposal to place a portion of the Chattooga River in the National Wild and Scenic Rivers System. The opportunity to review and comment upon the proposal is appreciated. Accordingly, we wish to offer the following comments for your consideration.

In reviewing the report and the environmental statement, we are pleased to note that serious thought has been given to the potential problem of overuse of the area, and that recreational use will be limited, if necessary, to the carrying capacity of the area. We also note that primitive campgrounds will be developed at strategic points along the trail system and will be accessible from the river. These campgrounds, with minimum sanitary facilities, should help alleviate the problem of indiscriminate camping along the river banks which can lead to a deterioration of the recreational environment and an increase in health hazards.

In providing sanitary facilities for these campgrounds, care must be exercised to provide a water supply fully protected from contamination and waste disposal facilities which will not contribute to environmental deterioration or lead to public health hazards. The guidelines contained in Public Health Service Publication No. 1195, "Environmental Health Practices in Recreational Areas," can be of assistance in this respect. We will be glad to provide technical

assistance and consultation to your Department on the planning and development of these facilities if requested.

We appreciate the opportunity to present the views of our Department concerning this proposal.

Sincerely yours,

Merlin K. DuVal, M.D.
Assistant Secretary for
Health and Scientific Affairs

Enclosure
PHS Publication No. 1195

ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

NOV 3 1971

OFFICE OF THE ADMINISTRATOR

FOREST SERVICE
RECEIVED
NOV 10 1971
MANAGEMENT

Honorable Clifford M. Hardin
Secretary of Agriculture
Washington, D. C. 20250

Dear Mr. Secretary:

We have reviewed the Chattooga River Wild and Scenic River Study Report including the environmental impact statement and support fully the recommendation that 57 miles of the Chattooga be designated as a unit of the National Wild and Scenic River System. The study presents a strong case of supporting preservation while balancing those positive aspects with an adequate statement of the alternatives. Formal designation of the Chattooga and its administration by the Forest Service will help assure its continued existence as a prime example of an unspoiled and free-flowing mountain stream.

The assessment of the actions necessary to acquire and protect the area is thoughtful and carefully conceived and should result in a viable program of implementation. We can only add that protection of the area's high quality waters must be a paramount concern and should be accomplished during the early phases of the program. This Agency's expertise is, of course, available to the Forest Service in this regard. In addition, we urge that as much of the area outside the national forests as possible be secured to the stated purposes by outright purchase or perpetual easements so that the chance of detrimental development is minimized. The official comments of our Atlanta Regional Office have been transmitted to the Regional Forester in Atlanta. These comments support both official designation and the statements in the environmental impact statement.

Once again, we are most happy to support the study recommendations as well as the environmental impact statement and trust that you will not hesitate to call upon this Agency should any questions arise.

Sincerely yours,

William D. Ruckelshaus

William D. Ruckelshaus
Administrator

COMMUNITY PLANNING AND MANAGEMENT
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
PEACHTREE SEVENTH BUILDING, ATLANTA, GEORGIA 30323
Room 645

REGION IV

October 18, 1971

IN REPLY REFER TO:
4ME

Mr. T. W. Cowden
Assistant Secretary
Department of Agriculture
Washington, D.C. 20250

Dear Mr. Cowden:

We have reviewed the copy of your Department's proposed report on the Chattooga River and the draft environmental statement relative to the proposal to include a segment of the Chattooga River in the National Wild and Scenic Rivers System.

The Department of Housing and Urban Development heartily endorses this proposal as a positive step to preserve badly needed open-space areas to serve the recreation needs of the present and future population in the Southeast.

The DHUD has recently decentralized its operations. In view of this, would you please send future referrals of this nature to the appropriate HUD Regional Office. We believe it would speed up the processing and review procedures.

Sincerely yours,

Leo J. Zuber
Acting Assistant Regional
Administrator

ENVIRONMENTAL PROTECTION AGENCY
Suite 300, 1421 Peachtree Street, NE
Atlanta, Georgia 30309
October 4, 1971

Mr. T. A. Schlapfer
Regional Forester
Forest Service
Southern Region
Room 806
1720 Peachtree Road
Atlanta, Georgia 30309

Dear Mr. Schapfer:

We are in agreement with the Forest Service Draft Environmental Impact Statement and their Wild and Scenic River Study Report that the best way to preserve the ecology and natural beauty of the Chattooga River is to classify and preserve it as a Scenic River. It is also the most practical way of maintaining and preserving its present excellent water quality and the natural free flowing trout streams found within its reaches.

The construction of the dams proposed in the development of the river for power would degrade water quality values throughout the river system.

With regard to water quality under Section 102(2)(c) of PL 91-190, the Environmental Protection Agency recommends that the following be included.

1. The Environmental Impact - Classifying and preserving the Chattooga as a Scenic River is the only sure way of preserving the ecology, the natural beauty and excellent water quality of this free flowing stream as it now exists.

The construction of the dams for the development of power would raise water temperatures, change predominant fish species, inundate and destroy rare species of plants and generally degrade water quality values in the river system.

2. Adverse Environmental Effects - The adverse environmental effects would be those experienced by complete development of the river for hydroelectric power. If no action is taken to preserve the Chattooga as a Scenic River,

there will be a gradual buildup of the watershed with hunting and fishing camps and summer homes with the accompanying pollution problems and a gradual degradation in water quality values.

The construction of the dams for power would be accompanied by high turbidity and silting during the construction period followed by a gradual clearing as conditions became stabilized. However, overall water quality values would be poorer than for the free flowing streamwith higher water temperatures, a change in predominant fish species to those adapted to reservoir environment, anaerobic conditions and low D. O. in the hypolimmion of the reservoirs, and possibly scum and algae on the surface depending on the degree of development along the shores of the reservoirs and the controls placed on the recreational and camp development within the watershed.

3. The Alternatives to the Proposed Action - The alternatives are no-action, the development of the Chattooga for power and classifying it as a Scenic River.

With regard to these alternatives, the preservation of water quality in the Chattooga can best be accomplished by preserving the stream as a Scenic River.

4. The Relationship Between Local Short -Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity - The benefits of converting the river system to use for power development should be weighed against its overall value to the public for future generations as a Wild and Scenic River. As areas of this type become more scarce, we believe the preservation of the ecological and water quality values of such an area to be enjoyed by future generations is of extreme importance.

5. Any Irreversible and Irretrievable Commitments of Resources Which Would Be Involved in the Proposed Action Should It Be Implemented - Water quality values in the Chattooga River system as they now exist would be lost for future generations along with the natural free flowing streams and the natural beauty and ecology of the area.

The proposal to include the Chattooga River in the National Wild and Scenic River System does not involve drinking water; however, it does involve human contact recreation. Development of a scenic river system is aimed at preserving high quality water, and the Chattooga River proposal should accomplish this goal. Several primary contact recreation water quality standards are listed on page 15 of the Study Report. It is our opinion that a standard similar to the N. T. A. C. Water Quality Criteria should be specified

so as to fully protect the health of the recreationist. Whenever natural background conditons cause this standard to be exceeded, primary contact recreation may have to be restricted; however, in this type of river that should seldom occur.

If the Chattooga River is included in the Wild and Scenic River System, some consideration must be given to the disposal of solid waste that will be generated by project initiation; otherwise, an adverse environmental impact will probably exist for some time in the future.

We would appreciate receiving a copy of the final Environmental Impact Statement when it is completed.

If we can help you in any way, please call on us.

Sincerely,

Jack E. Ravan
Regional Administrator

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS: (WS)
U.S. COAST GUARD
400 SEVENTH STREET SW.
WASHINGTON, D.C. 20590
PHONE: 202-426-2262

4 OCT 1971

FOREST SERVICE

Mr. T. K. Cowden
Assistant Secretary
Department of Agriculture
Washington, D. C. 20250

Dear Mr. Cowden:

This is in response to your letter of 28 July 1971 addressed to Secretary Volpe concerning the Department of Agriculture's proposed wild and scenic river study report and draft environmental impact statement on the Chattooga River.

Both the report and impact statement have been reviewed by the concerned operating administrations and staff of the Department of Transportation. No comment is offered concerning the draft environmental impact statement.

The following is noted from the Federal Highway Administration review of the study report.

> "On Page 53, Paragraph 2, Chapter VII, the report states that the State highway agencies (the Georgia State Highway Department, the North Carolina State Highway Commission, and the South Carolina State Highway Department) have no plans to construct additional highways or expand existing highways across the Chattooga River. Inasmuch as State highway agencies generally plan proposed improvements only 5 years in advance, the statement is misleading and should not be construed to preclude the need to upgrade bridges and related approach roadways within the recommended river corridor at some future date. It is known, for instance, that the South Carolina State Highway Department plans to widen all bridges to 24 feet when funds are available. This would include the 22-foot bridge on State Route 28.
>
> On Page 169, Transportation Systems 1, Appendix L, the report includes the following basic planning assumption: "Conflicting or nonstandard transportation facilities will be removed or brought to standard." We should like to know the specific intent of this guideline with regard to public highways. The North Carolina State Highway Commission indicates that the two bridges in that State should remain open to the public.
>
> We suggest that the above-noted inconsistencies be resolved."

It is requested that this Department be advised concerning the specific intent of this guideline with regard to public highways.

The Department of Transportation supports the proposal to preserve sections of the Chattooga River as a wild and scenic river and recommends that these sections be added to the system at as early a date as possible. We would be pleased to receive a copy of the final environmental impact statement when it is prepared.

The opportunity for the Department to review and comment upon the draft statement and study report on the Chattooga River is appreciated.

Sincerely,

H. D. MUTH
Captain, U. S. Coast Guard
Acting Chief, Office of Marine
Environment and Systems

UNITED STATES WATER RESOURCES COUNCIL

SUITE 800 • 2120 L STREET, N.W. WASHINGTON, D.C. 20037

FEB 3 1972

Honorable T. K. Cowden
Assistant Secretary
Department of Agriculture
Washington, D. C. 20250

Dear Mr. Cowden:

Your letter of July 28, 1971, requested the Water Resources Council's comments on your Department's proposed wild and scenic river study report on the Chattooga River and on the accompanying draft environmental impact statement. The report proposes that 57 miles of the Chattooga River be included in the National Wild and Scenic Rivers System.

The Council's review has been undertaken from three aspects with the following findings:

1. Report Coordination - The proposed report has been fully coordinated with the completed and ongoing studies and plans of the agencies of the Council.

2. Effect of the Proposal on Potential Uses - The proposed report adequately presents the enhancement, foreclosure or curtailment of reasonable foreseeable potential uses of the land and water resources involved for three alternatives; (a) no action; (b) inclusion of the 57-mile segment in the National Wild and Scenic Rivers System; and (c) full development for hydroelectric power. However, alternatives involving combinations of preservation, recreation and development should have been more fully explored.

3. Relationship of the Proposal to Other Uses or Services - If adopted, the proposal would not preclude meeting the needs for other essential uses or services such as utility and transportation routes.

Even though the report does not clearly identify and evaluate the alternative of partial hydroelectric development, the Council concludes that, pursuant to the provisions of P. L. 90-542, the report presents a strong case for the inclusion of a 57-mile segment of the Chattooga River, Georgia, North Carolina and South Carolina in the National Wild and Scenic Rivers System.

Sincerely yours,

W. Don Maughan

W. Don Maughan
Director